

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: 88305522.0

(51) Int. Cl.4: **E21B 49/08** , **E21B 43/116** ,
E21B 34/10 , **E21B 47/06**

(22) Date of filing: 17.06.88

(30) Priority: 19.06.87 US 64285

(43) Date of publication of application:
21.12.88 Bulletin 88/51

(64) Designated Contracting States:
DE ES FR GB IT NL

(68) Date of deferred publication of the search report:
13.12.89 Bulletin 89/50

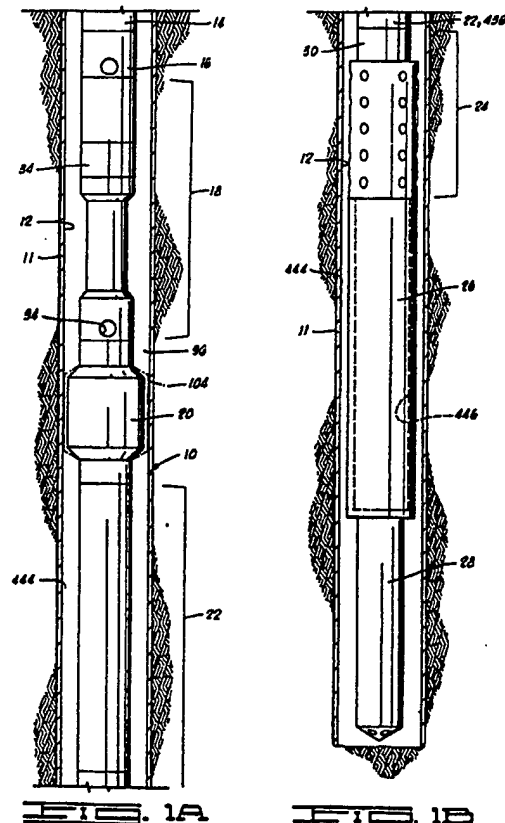
(71) Applicant: **HALLIBURTON COMPANY**
P.O. Drawer 1431
Duncan Oklahoma 73536(US)

(72) Inventor: **Christensen, Jon Brent**
1309 S.E. Trilene
Ankeny Iowa 57721(US)

(74) Representative: **Wain, Christopher Paul et al**
A.A. THORNTON & CO. Northumberland
House 303-306 High Holborn
London WC1V 7LE(GB)

(54) **Downhole tool and method for perforating and sampling.**

(57) A downhole tool for perforating a well and obtaining fluid samples therefrom, comprises a retrievable packer (20), perforating guns (24) and a sampler (22) disposed between the packer and guns which is adapted for entrapping a fluid sample without flowing well fluids into the tool string. An operating piston is slidably disposed in a cylinder above the packer and is used to actuate a sampler valve in the sampler. A seal ensures that all portions of a sampling chamber in the sampler are disposed below the packer. The operating piston is actuated in response to a pressure differential between a well annulus above the packer and an internal pressure in the tool. The sampler includes a plurality of sampler modules disposed in the sampling chamber. Each of the sampler modules includes a valve which automatically closes after a predetermined volume of fluid fills a sampler module chamber defined in the sampler module.





EP 88 30 5522

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|---|--|---|---|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int. Cl.4) |
| A | EP-A-0 137 735 (HALLIBURTON CO.) * Abstract * --- | 1-12 | E 21 B 49/08 E 21 B 43/116 |
| A | US-A-2 169 559 (HALLIBURTON) * Page 3, lines 14-51 * --- | 1,9 | E 21 B 34/10 E 21 B 47/06 |
| A | US-A-2 330 509 (McCULLOUGH) * Page 3, left-hand column, line 64 - right-hand column, line 9 * ----- | 1,9 | |
| | | | TECHNICAL FIELDS SEARCHED (Int. Cl.4) |
| | | | E 21 B |
| The present search report has been drawn up for all claims | | | |
| Place of search | Date of completion of the search | Examiner | |
| THE HAGUE | 02-10-1989 | HEDEMANN, G. A. | |
| CATEGORY OF CITED DOCUMENTS | | | |
| X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document | | T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document | |